

NEW OR NOTEWORTHY GEOGLOSSACEAE

ELIAS J. DURAND

Since the publication of the writer's monograph of the Geoglossaceae of North America, in 1908, numerous specimens have been collected, or have been received from correspondents in various parts of the country, which have thrown additional light on certain little known forms. Authentic specimens of several species previously known only by description have also become available, which have, in one or two instances, materially modified the views expressed in the monograph, or have cleared up certain points at that time doubtful. The most valuable collection examined is one of 45 numbers, made by Mr. W. H. Long, in Maryland and Virginia, in 1910.

GEOGLOSSUM INTERMEDIUM Durand

Virginia: Great Falls and Cherrydale, Sept., 1910, W. H. Long nos. 2236, 2251 and 2269 (D).

The three collections by Mr. Long agree well with the two previous ones from New York and Ontario, and abundantly prove the validity of the species.

GEOGLOSSUM PUMILUM Winter, Grev. 15:91. 1886

Ascomata very small, 0.5–2 cm. high, slender, black; ascigerous portion distinct from the stem, clavate-elliptic to oblong-spherical, 1.5–3 mm. long, 1–2 mm. thick when dry, rounded above; stem very slender, brownish black, squamulose, especially above, 0.5 mm. thick when dry. Asci clavate, stout, $185\text{--}200 \times 20\text{--}25 \mu$. Spores 8, fascicled in the ascus, clavate-cylindric, tapering each way from above the middle, 15-septate, $104\text{--}125 \times 6 \mu$ (majority $110\text{--}115 \mu$), deeply colored. Paraphyses longer than the asci, pale brown above, nearly hyaline below, the distal end stout, clavate, rather remotely septate, usually nearly straight but sometimes strongly curved, inclined to be constricted at the septa. $8\text{--}12 \mu$ thick.

On soil, Cherrydale, Va., 17 Sept., 1910, W. H. Long no. 2248 (D); Bermuda, Nov.-Dec., 1912, Britton, Brown and Seaver no. 1364 (NY).

This interesting addition to the geoglossaceous flora of North America was first described by Winter from Brazil. It is one of the few known species with 15-septate spores. It is closely allied to *G. pygmaeum* Ger., from which it differs in its shorter spores, and especially in its more robust, longer, remotely septate paraphyses. I have not seen Winter's type, so that the identification depends upon the description only. Only two plants from each of the above mentioned collections have been seen.

MICROGLOSSUM LONGISPORUM Durand

On the ground, Cherrydale, Va., 10 Sept., 1910, W. H. Long (D).

This agrees in all respects with the previous collections from New York, North Carolina and Michigan.

MITRULA MUSCICOLA E. Henn.

On wet moss close to the water's edge, Lake Agnes, Alberta, 11 Aug., 1915, Durand n. 10413.

The following notes were made from the fresh material:

Ascomata 1-1.5 cm. high, entirely pale cinnamon-brown with a tint of tan; stem slender, terete, smooth, 0.5-1 mm. thick; ascigerous portion abruptly distinct from the stem from which it is slightly free below, hemispherical to oblong-ovate in shape, even, or irregularly furrowed, or, in extreme cases, cerebriform, 2-3 mm. wide and high, slightly darker than the stem.

This species is doubtfully distinct from *M. gracilis* Karst., previously reported from Labrador and Newfoundland, and more recently found in quantity in Colorado by Seaver. I searched for moss-inhabiting Mitrulas carefully but in vain at various points along the Alaskan coast as far north as Skagway.

Trichoglossum confusum Durand n. sp.

T. Rehmanium (P. Henn.) Durand, Ann. Myc. 6: 439. f. 93, 168. 1908.

Ascomata solitaria, exsiccata 1.5–2.5 cm. alta; clavula obovata; stipes teres, 1–2 cm. longa, 1–1.5 mm. crassa, hirsuta; cystidia acicularia ascos parve superantia. Asci clavati, apice rotundati, $175 \times 12 \mu$; sporidia 8, multiseriata, cylindraceo-clavata, fuliginea, primum 3- demum 7-septata, $55\text{--}73 \times 4\text{--}5 \mu$ (plurima 60–68 μ); paraphyses pallide brunneae, sursum leniter incrassatae, rectae vel curvatae.

Ad terram, Blowing Rock, N. Car., 1901, Durand n. 1934.

In the Monograph, p. 439, this collection was referred with some hesitation to *Geoglossum Rehmianum* P. Henn., a Brazilian species of which no authentic specimens had been seen, so that the determination was on the basis of description only. More recently, however, through the courtesy of Dr. G. Lindau, the writer has been able to examine a portion of the original type of *G. Rehmianum* from St. Catharina, Brazil (Ule n. 1564), and thus to settle its relationship to the Carolinian plant. In the Brazilian plant the spores are nearly cylindrical, are narrowed toward the lower end only, and measure $78\text{--}103 \times 5 \mu$ (the majority 90–95 μ), instead of 60–65 μ as indicated in the original description. The paraphyses are brownish above, and somewhat thickened and curved as in the other members of the genus. The plant from North Carolina is different, the spores being shorter, 55–73 μ (majority 60–68 μ), and distinctly clavate and narrowed both above and below the middle.

A careful study and comparison of authentic specimens has led to the conclusion that *G. Rehmianum* P. Henn. is specifically identical with *Trichoglossum Walteri* (Berk.) Durand, a species originally described from Australia, but known to occur in ten of the eastern United States. The plant from Carolina represents an undescribed species differing from *T. Farlowi* in having the spores 7-septate at maturity.

To those who would regard *T. confusum* as a 7-septate form of *T. Farlowi* it may be stated that examination of more than forty collections of the latter from twelve states has failed to disclose a single 7-septate spore. In *T. confusum* the majority are 7-septate, those with a lesser number being plainly immature.

TRICHOGLOSSUM HIRSUTUM f. BRAZILIENSE P. Henn.

In the original description of *T. hirsutum* f. *variabile* (Monograph, p. 438) its possible identity with the forma *Braziliense* P. Henn., of which no specimens had been seen, was suggested. Subsequent examination of a portion of the type of the latter from Goyaz, Brazil (Ule n. 2027), preserved at Berlin, shows the spores to be regularly 15-septate, 138–160 μ long, tapering each way from above the middle, instead of 12–14-septate as stated in the original description. It is, therefore, typical *T. hirsutum*, quite different from forma *variabile*.

Trichoglossum Wrightii Durand

Trichoglossum hirsutum forma *Wrightii* Durand, Ann. Myc. 6: 438. f. 83, 174. 1908.

Ascomata clavate, black, velvety, with the numerous, black cystidia, variable in size; ascigerous portion irregular, occupying about $\frac{1}{3}$ the total length. Asci clavate-cylindric, 250–265 \times 20–25 μ . Cystidia black, acute, projecting only slightly beyond the hymenium. Spores 8, fasciculate, 105–145 \times 7 μ , brown, clavate, broadest above the middle, mostly 8–9-septate, rarely 5-, 6-, or 7-septate, stout. Paraphyses cylindric, septate, pale brown above, only slightly thickened and strongly curved.

Cuba: Wright (H).

Bermuda: Brown, Britton and Seaver, no. 1404 (D).

In the Monograph this species was described as a form of *T. hirsutum*, from two Cuban specimens in the herbarium of Harvard University. A third collection, from Bermuda, has convinced me of the correctness of the opinion previously expressed, that it would prove to be a distinct species. The spores resemble those of *T. velutipes*, but there are eight in each ascus.

UNIVERSITY OF MINNESOTA,
MINNEAPOLIS, MINN.